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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
HELMS, LARRY RONALD

ART UNIT	PAPER NUMBER
1642	18

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/805,217	BRAMS, PETER	
	Examin r	Art Unit	
	Larry R. Helms	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Request for Continued Examination

1. The request filed on 4/7/03 for a Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/805217 is acceptable and a RCE has been established. Claims 29-38 are pending and are currently under prosecution. An action on the RCE follows.

2. Claims 29 and 35-38 have been amended.

3. The text of those sections of Title 35 U.S.C. code not included in this office action can be found in a prior Office Action.

4. The following Office Action contains some NEW GROUNDS of rejection.

Rejections Withdrawn

5. The rejection of claims 29-38 under 35 U.S.C. 102(e) as being anticipated by Thorpe et al (U.S. Patent 6,312,694, filed 7/12/99 and has priority to 7/13/98) is withdrawn in view of the amendments to the claims.

6. The rejection of claims 29 and 34 under 35 U.S.C. 102(b) as being anticipated by Vogt et al (Am J. Obstet Gynecol 177:964-72, 1997) is withdrawn in view of the amendments to the claims.

7. The rejection of claims 29 and 34 under 35 U.S.C. 102(b) as being anticipated by Umeda et al (The Journal of Immunology 143:2273-79, 1989) is withdrawn in view of the amendments to the claims.

8. The rejection of claims 29 and 34 under 35 U.S.C. 102(b) as being anticipated by Rote et al (Clinical Immunology and Immunopathology 66:193-200, 1993) is withdrawn in view of the amendments to the claims.

9. The rejection of claims 29-38 under 35 U.S.C. 103(a) as being unpatentable over Rote et al (Clinical Immunology and Immunopathology 66:193-200, 1993), or Umeda et al (The Journal of Immunology 143:2273-79, 1989), or Vogt et al (Am J. Obstet Gynecol 177:964-72, 1997) and further in view of Thorpe et al (U.S. Patent 6,312,694, filed 7/12/99 and has priority to 7/13/98) is withdrawn in view of the amendments to the claims.

The following are some NEW GROUNDS of rejection

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 29-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to an antibody that binds phosphatidyl serine and that induces CDC wherein the VL of said antibody is also present in the light chain of an antibody that recognizes e-aminocaprioic acid and wherein the VH of said antibody is also present in the heavy chain of an antibody that recognizes p-azaphenylarsanate and wherein the antibody is a human, primate, chimeric, or humanized antibody.

The specification only teaches one antibody that has the claimed properties, the 2E7 antibody which is a primate antibody (see page 24 and 34). While it is known that the mammalian genome has 10^6-10^{10} possible antibody variable region specificities encoded in the mammalian genome, the specification does not describe which other antibodies that would potentially bind the e-aminocaprioic acid and p-azaphenylarsanate would also be able to bind phosphatidyl serine or which of the light chains would be able to properly pair with the heavy chain to form a complete binding site for the phosphatidyl serine antigen. In addition the specification does not teach a human antibody that has the claimed properties.

Therefore, the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

12. Claims 29-38 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the 2E7 antibody (when proper deposit requirements are met) and pharmaceutical compositions comprising such a primate or

humanized or chimeric antibody, does not reasonably provide enablement for just any antibody that binds phosphatidyl serine wherein the light chain is present in an antibody that binds e-aminocaprioic acid and wherein said antibody the VH region is also present in an antibody that binds p-azaphenylarsanate or wherein the antibody is a human antibody. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation is required, are summarized in Ex parte Forman, 230 USPQ 546 (BPAI 1986). They include the nature of the invention, the state of the prior art, the relative skill of those in the art, the amount of direction or guidance disclosed in the specification, the presence or absence of working examples, the predictability or unpredictability of the art, the breadth of the claims, and the quantity of experimentation which would be required in order to practice the invention as claimed.

The claims are broadly drawn to an antibody that binds phosphatidyl serine and that induces CDC wherein the VL of said antibody is also present in the light chain of an antibody that recognizes e-aminocaprioic acid and wherein the VH of said antibody is also present in the heavy chain of an antibody that recognizes p-azaphenylarsanate and wherein the antibody is a human, primate, chimeric, or humanized antibody.

The specification only teaches one antibody that has the claimed properties, the 2E7 antibody which is a primate antibody (see page 24 and 34).

The specification has not demonstrated the reproducible production of antibodies which have properties identical to 2E7, nor of antibodies of other species origins which have the claimed properties. The production of a hybridoma which secretes a monoclonal antibody having a particular set of specifically defined characteristics is an unpredictable event. Given that a single example of the isolation of an antibody having the claimed properties has been presented herein, it is not clear that the isolation of the 2E7 antibody did not merely represent a fortuitous event. In view of the lack of predictability of isolating further antibodies which are functionally equivalent to 2E7 together with the lack of exemplary material presented herein, it appears that undue experimentation would be required of one of skill in the art to practice the invention as claimed using the technology of the specification alone.

The specification fails to set forth the reproducibility of the generically claim monoclonal antibodies which bind to phosphatidyl serine wherein the VL is from an antibody that binds e-aminocaprioic acid and the VH is from an antibody that binds p-azaphenylarsanate. In view of the unpredictability of producing antibodies having the claimed properties from among the 10^6- 10^{10} possible antibody variable region specificities encoded in the mammalian genome and in view of the lack of disclosure of the reproducibility of these antibodies, it does not appear that the antibodies required for the broadly claimed methods can be reproduced form he written disclosure alone.

A reasonable doubt exists as to whether the isolation of the monoclonal antibodies may have been fortuitous and not reproducible without undue experimentation. Filing of evidence of the reproducibility of the claimed monoclonal

antibodies without undue experimentation coupled with evidence of the public availability of the starting materials necessary to produce the claimed antibodies is accordingly required.

Conclusion

13. No claim is allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larry R. Helms, Ph.D, whose telephone number is (703) 306-5879. The examiner can normally be reached on Monday through Friday from 7:00 am to 4:30 pm, with alternate Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, can be reached on (703) 308-3995. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

15. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 308-4242.

Respectfully,

Larry R. Helms Ph.D.

703-306-5879